Paper No. 21

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte BRUCE W. MCCAUL
and DAVID E. DOGGETT

_____

Appeal No. 97-0345
Application 08/363,094[1]

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ON BRIEF

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Before, THOMAS, HAIRSTON, and HECKER, ***Administrative Patent Judges***.

HECKER, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 48 through 59, all of the claims pending in the present

[1] Application for patent filed December 21, 1994. According to appellants, this application is a division of Application 08/049,474, filed April 16, 1993.

application. Claims 1 through 47 have been canceled.

The invention relates to an absorption spectroscopy device for determining the concentration of a gas in a sample cell containing the gas.

As illustrated in Appellants' Figure 17, a laser diode 170 generates laser radiation 171 which passes through neutral density absorber 173 and then through sample cell 174 to radiation detector 175. Sample cell 174 contains a gas of unknown concentration. Laser diode 170 is tuned to the wavelength of an absorption line which is characteristic of the gas whose concentration is being measured. When laser radiation 171 emerges from sample cell 174, its reduced intensity (absorbed by the gas) is detected by detector 175, and this information is used to determine the gas concentration.

Neutral density absorber 173 is used to reduce the effects of unwanted reflections of the laser radiation such as that caused by dust particle 176. Such unwanted reflections tend to cause laser diode instabilities and mode-hops. In another embodiment, the neutral density absorber is replaced

with a quarter wave plate, as illustrated in Figure 16, element 164.

The independent claim 48 is reproduced as follows[2]:

48. An absorption spectroscopy device, comprising:

a laser diode emitting laser radiation;

a quarter wave plate; and

a sample cell containing a volume of material to be analyzed, said laser radiation emitted from said laser diode passing through said quarter wave plate before passing through said sample cell.

The Examiner relies on the following references:

Mulready et al. (Mulready)	3,699,471	Oct. 17, 1972
Sato et al. (Sato)	4,963,004	Oct. 16, 1990
Ritter et al. (Ritter) (European Patent Application)	0 176 329	Apr. 2, 1986

Claims 48 through 59 stand rejected under 35 U.S.C. § 103 as being unpatentable over Mulready and Ritter in view of Sato.

[2] The claims in Appellants' appendix are correct except that claim 56 is dependent from claim 55 instead of claim 50 as indicated.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief and answer for the respective details thereof.

OPINION

We will not sustain the rejection of claims 48 through 59 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan, contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l.,*** 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), ***citing W. L. Gore & Assocs., Inc. v.***

Garlock, Inc., 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), ***cert. denied***, 469 U.S. 851 (1984).

In regard to the rejection of claims 48 through 59 under 35 U.S.C. § 103 as being unpatentable over Mulready, Ritter and Sato, Appellants argue at the top of pages 7 and 10 of the brief that "[n]either Mulready, nor Ritter nor Sato anywhere either discloses or suggests an 'absorption spectroscopy device' or a 'sample cell'". These two elements are recited in all independent claims. Appellants argue on page 15 of the brief that the Examiner has therefor not established a ***prima facie*** case of obviousness. The Examiner, on page 3 of the answer, states that appellants describe, as well known, the operation of an absorption spectroscopy device in the background section
(pages 1-4) of their specification. However, neither the background section, nor portions thereof, have been made part of the prior art in the rejection. "Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not

positively including the reference in the statement of rejection." ***In re Hoch***, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

Even assuming an absorption spectroscopy reference had been used in the rejection to supply the missing elements, we find no motivation to combine Mulready and/or Ritter with Sato, as suggested by the Examiner. Both Mulready and Ritter discuss stabilizing lasers by attenuating radiation ***reflected back to the laser source, and do not use a quarter wave plate or neutral density filter***. Sato attenuates radiation emitted by the laser source, but is silent about reflected radiation and stabilizing the laser source. In addition, the quarter wave plate of Sato is used in combination with one or more neutral density filters, not as an alternative to neutral density filters, for attenuation. Thus, there is no motivation or suggestion in the applied references, to use a quarter wave plate or neutral density filter to attenuate reflected laser radiation. The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the

modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." ***Para-Ordnance Mfg. v. SGS Importers Int'l.***, ***supra, citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.***, 721 F.2d 1551, 1553, 220 USPQ 311, 312-13 (Fed. Cir. 1983), ***cert. denied,*** 469 U.S. 851 (1984).

We find that all claims recite the absorption spectroscopy device and sample cell which are not found in the applied prior art. Therefore, we have not sustained the rejection of claims

48 through 59 under 35 U.S.C. § 103. Accordingly, the

Examiner's decision is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)
KENNETH W. HAIRSTON Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
STUART N. HECKER Administrative Patent Judge	)

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